

Work Order ID 65578

January 20, 2011 9:14:34 AM



Page 1

Item ID:	D6102-003	Accept		Setup	Start	
Revision ID:					Stop	
Item Name:	Saddle Billet					
Start Date:	1/20/11	Start Qty: 4.00		Cust Item ID:		
Required Date:	2/04/11	Req'd Qty: 4.00		Customer:		
Reference:						

Approvals:	Process Plan:	<u>CL</u>	Date:	<u>1/10/12</u>	Tooling:		Date:		Run	Start	
	QC:		Date:		SPC (Y/N):		Date:			Stop	

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D6102	Rev D

100		0.00							
	PURCHASING								
Purchasing	Memo	0.00							
Purchasing	Issue P/O: <u>13331</u> <input type="checkbox"/> a) Description: Alluminum billet <input type="checkbox"/> b) 6.000" x 6.250" x 2.000" thick <input type="checkbox"/> c) Tolerance on all dimensions are +0.006"/-0.000" <input type="checkbox"/> d) Grain direction along 6.000" length <input type="checkbox"/> e) Material: 6061-T6/T651 (QQ-A-250/11) or (QQ-A-200/8) <input type="checkbox"/> Material certi								

CL 1/10/12 (4)

110	Receive & Inspect for Damage & Mat'l Certs	0.00							
Packaging	Memo	0.00							
Packaging	Ensure material certification is attached								

CL 1/10/12 (4)

120	QC6- Inspect dimensions to drawing	0.00							
QC	Memo	0.00							
Quality Control	Check certification to Dwg D6102 for compliance								

CL 1/10/12 4

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 65578

January 20, 2011 9:14:34 AM



Page 2

Item ID: D6102-003

Accept



Setup Start



Revision ID:

Stop



Item Name: Saddle Billet

Start Date: 1/20/11

Start Qty: 4.00



Cust Item ID:

Required Date: 2/04/11

Req'd Qty: 4.00



Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool # Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

130

Identify as per dwg & Stock Location: MAT.

0.00



Packaging

Memo

0.00

MF 11-02-08

Packaging

140

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

11/02/08

MF
11-02-08

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

January 20, 2011 9:14:33 AM

Page 1

Work Order ID: 65578



Parent Item: D6102-003



Parent Item Name: Saddle Billet


Start Date: 1/20/11

Required Date: 2/04/11

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP A ☐ 01.05.04 ☐ New Issue ☐ EC ☐

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6102-003P  6061-T6 6.25x6x2		Purchased	No			110	Each	0.0000	1	4		1/20/11	(4)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

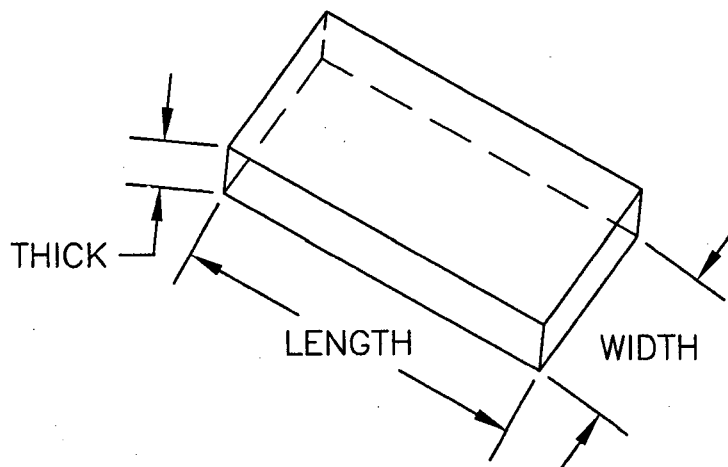
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART

DESIGN #	DRAWN BY PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED CP	APPROVED #	DRAWING NO. D6102	Rev. D SHEET 1 OF 1
DATE 06.06.30		TITLE SADDLE BILLET, 6061	SCALE NTS
A	01.03.30	NEW ISSUE	
B	03.10.20	ADD D6102-005/-007/-009	
C	04.08.25	ADD D6102-010/-011	
D	06.06.30	ADD D6102-013	

SPECIFICATION CONTROL DRAWING



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 65578
02/10/20

RELEASED

06.08.15 #

PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, LENGTH x WIDTH x THICK (+0.06/-0.00), AND GRAIN DIRECTION AS SHOWN.

TOLERANCE ON ALL DIMENSIONS IS +0.06/-0.00.

ALL DIMENSIONS ARE IN INCHES.

Part No.	Alloy	Length	Width	Thick	Grain Direction
D6102-001	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	7.880	6.250	2.000	Along 7.880 Length
D6102-003	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	6.000	6.250	2.000	Along 6.000 Length
D6102-005	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	47.85	15.250	1.000	Along 47.85 Length
D6102-007	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	7.500	7.000	2.500	Along 7.500 Length
D6102-009	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	11.000	6.000	5.000	Along 11.000 Length
D6102-010	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	7.950	8.250	2.500	Along 7.950 Length
D6102-011	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	6.500	8.250	2.500	Along 6.500 Length
D6102-013	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	6.500	7.000	2.000	Along 6.500 Length

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Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO13331

Purchase Order Date 1/20/11

PO Print Date 1/20/11

Page Number 1 of 1

Order From :

VC-MET001

METAUX CASTLE
A.M. CASTLE & CO. (CANADA) INC. - BOX B9204 PO BOX 9100
TORONTO, ON M4Y 3A5
CA

Contact Name

Vendor Phone

Vendor Fax

Vendor Account Nbr

514 694 9575

514 695 3281

Buyer

Requisition Nbr

Tax Resale Nbr

Terms

Currency

FOB

Chantal Lavoie

10127-2607

Net 30

CAD

Destination-Collect

Ship To :

DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

FAXED
01/20/11

e-mail trace

Line Nbr	Reference Revision ID Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	Req Qty/ Unit of Measure	Ship Method	Unit Price	Extended Price
1	D6102-003P	6061-T6 6.25x6x2	2/04/11 Yes	4.00 Each	Yours ppd	\$69.0000	\$276.00

Special Inst: AS PER DWG D6102 REV. D
B65578
MATERIAL: 6061-T6/T651 AS PER QQ-A-
250/11 OR QQ-A-200/8
SIZE: 6.000" X 6.250" X 2.000" THICK
GRAIN DIRECTION ALONG 6.000"
LENGTH
TOLERANCE ON ALL DIMENSION ARE
+0.006"/-0.000"

PO Total:

\$276.00

**MATERIAL CERTIFICATION
REQ'D UPON DELIVERY**

h c2

No substitution or deviation without
consent.
Certificate of Conformity or Material
Certification required when applicable

Change Nbr: 1

Change Date: 1/20/11

**Castle Metals®**

A. M. Castle & Co.

PACKING SLIP

Page 1 of 1

Shipment No:664141

Ship From: Castle Metals MONTREAL 825-SELKIRK AVENUE POINTE CLAIRE, QUEBEC H9R 3S2		Sold To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7		Ship To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7		Deliver To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA	
Date Shipped 01-FEB-11	F.O.B. ORIGIN	Freight Terms Prepaid		Carrier UPS		BOL No 664141-2	

Shipment Details**Final Destination Branch - MON**

Order No 1233741	Line No 1	Item No 8641.MO	Description 2.0000.PL.6061.T651.ALUMINUM.48.5000.144.5000 CUT 2SIDED TO 6.25 IN (+ .0310/- .0000 IN (GRAIN TO RUN ALONG 6")) X 6 IN (+ .0310/- .0000 IN (GRAIN TO RUN ALONG 6")) - ALUMINUM PLATE SAW SPECIFICATIONS: QQ-A-250/11				
Purchase Order No 13331		Part Number YOUR ITEM NUMBER: D6102-003		Ordered Qty 4 PCS		Invoice Qty 4 PCS	
Details							
Delivery No. 66599310	Mill	Heat Number 513882A1	Mech Id	PCS 4	Width (IN)	Length (IN)	Shipped Qty (LBS) 30.05

These commodities/technologies are subject to US Export Administration & US State Dept. Regulations and, if intended for export, were/are exported thereunder. Diversion contrary to US Law is Prohibited.

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customer cannot be returned for credit.

Reviewed by Authorized Castle Metals Representative:

Date:

ark
11/02/08

SHIP TO:

A M CASTLE & CO
3400 NO. WOLF ROAD
FRANKLIN PARK, IL 60131

KAISER ALUMINUM

Trentwood Works - Spokane, WA 99215

Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number

4200629

SOLD TO:

AM CASTLE & CO- SOLD TO
3400 NO. WOLF ROAD
FRANKLIN PARK, IL 60131

CUSTOMER PO NUMBER: 61292		WORK PACKAGE:	CUSTOMER PART NUMBER: 8641 AMC A96061-161		SHIP RUN/LOAD: 101848/2	GOV'T CONTRACT NUMBER:
KAISER ORDER NO: 1100864	LINE ITEM: 2	SHIP DATE: 28-JUL-2010	ALLOY: 6061	CLAD: BARE	TEMPER: T651	PRODUCT DESCRIPTION: KaiserSelect® Precision Plate
WEIGHT SHIPPED: 11252 LB	QUANTITY: 8 PCS EST.	B/L NUMBER: 2028301	GAUGE: 2.0000 IN		DIAMETER/WIDTH: 48.500 IN	LENGTH: 144.500 IN

Certified Specifications

AMS 4027/RevN
CMMP 025/RevT

ASME SB 209/Rev2004

ASTM B 209/Rev07

Test Code: 1511

Test Results

Lot: 512535A6 Cast 787

Drop 20

Ingot 3

(ASTM E8/B557)

(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T651	LT / 2 (Min:Max)	48.9 : 49.6 (337 : 342)	43.6 : 44.9 (301 : 310)	15.0 : 15.1

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual	0.68	0.5	0.35	0.08	1.0	0.20	0.11	0.02	0.01	0.00	TOT 0.06

Lot: 513882A1 / Cast 785

Drop 41

Ingot 5

(ASTM E8/B557)

(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T651	LT / 2 (Min:Max)	49.4 : 49.7 (341 : 343)	43.9 : 44.0 (303 : 303)	14.9 : 15.3

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual	0.71	0.6	0.29	0.08	1.0	0.19	0.16	0.02	0.01	0.00	TOT 0.05

Handwritten signature
11/02/08

KAISER ALUMINUM

Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number
4200629

Lot: 513967A0 Cast 785 Drop 25 Ingot 3

(ASTM E8/B557)
(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T651	LT / 2 (Min:Max)	49.4 : 49.7 (341 : 343)	44.1 : 44.8 (304 : 309)	14.6 : 15.0

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual	0.68	0.6	0.28	0.09	1.0	0.18	0.18	0.02	0.01	0.00	TOT 0.05

ALLOY LIMITS

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER	MAX
6061 MIN	0.40	0.0	0.15	0.00	0.8	0.04	0.00	0.00	0.00	0.00	EACH	0.05
MAX	0.8	0.7	0.40	0.15	1.2	0.35	0.25	0.15	0.05	0.05	TOT	0.15

Aluminum Remainder

TEST NOTES

6061 sheet or plate certified to AMS 4025, AMS 4026, or AMS
4027 also meets applicable requirements of AMS-QQ-A-250/11
Rev.A.

Castle Metals FP

HEAT NUMBER 513882A1
MECHANICAL ID _____
ITEM CODE 8641
LOT NUMBER _____
PO NUMBER 101292
RECEIPT DATE 8-3-2010
SUPPLIER KAISER
SPECIFICATION _____
LCS NO
COMMENT _____
APPROVED SV

conf
11/02/08

CERTIFICATION

KAISER ALUMINUM FABRICATED PRODUCTS, LLC (KAISER) HEREBY CERTIFIES THAT METAL SHIPPED UNDER THIS ORDER WAS MELTED IN THE UNITED STATES OF AMERICA OR A QUALIFYING COUNTRY PER DFARS 225.872-1(a), WAS MANUFACTURED IN THE UNITED STATES OF AMERICA, AND MEETS THE REQUIREMENTS OF DFARS 252.226 FOR DOMESTIC CONTENT. THIS MATERIAL HAS BEEN INSPECTED, TESTED, AND FOUND IN CONFORMANCE WITH THE REQUIREMENTS OF THE APPLICABLE SPECIFICATIONS AS INDICATED HEREIN. ALL METAL WHICH IS SOLUTION HEAT TREATED COMPLIES WITH AMS 2772. ANY WARRANTY IS LIMITED TO THAT SHOWN ON KAISER'S STANDARD GENERAL TERMS AND CONDITIONS OF SALE. TEST REPORTS SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF KAISER ALUMINUM FABRICATED PRODUCTS, LLC LABORATORY. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTIRE ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW. ISO-9001:2000 CERTIFIED.

BILL POYNOR, LABORATORIES SUPERVISOR

Bill Poyner